



STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

Jim Gibbons, Governor

Allen Biaggi, Director

Leo M. Drozdoff, P.E., Administrator

Nevada Division of Environmental Protection Fact Sheet Pursuant to NAC 445A.236

Permittee Environmental Department
Naval Air Station Fallon
4755 Pasture Rd Bldg 307 Floor 3
Fallon NV 89496

Permit No. NV0110001

Facility Sewage Treatment Plant
Latitude: 39° 23' 46" N
Longitude: 118° 41' 22" W

General This 750,000 gpd plant was constructed in 1995 to serve a daily population of 3,000. Treatment processes consist of activated sludge via two parallel sequencing batch reactors, discharge chlorination, and sludge digestion and drying. A grit chamber was installed in 2004 but has not been operated due to a series of mechanical problems. Sludge digestion occurs in two 1 MG aerated ponds; and as those ponds fill they are discharged to two 5 MG ponds for drying and storage. There are also three 0.3 MG ponds left over from a previous plant configuration that provide additional sludge storage capacity. The ponds are all clay lined and four groundwater monitoring wells have been installed in the area.

Receiving Water Characteristics The plant discharges to an unnamed ditch that carries the effluent a few hundred feet to Lower Diagonal Drain, which in turn discharges to Diagonal Drain, and then Stillwater Point Reservoir. These features are part of the agricultural drainage system operated by the Truckee Carson Irrigation District. Diagonal Drain is listed as a Class C water at NAC 445A.126, and the standards of that section apply. In addition, the state wide standards for toxic materials, NAC445A.144, are applicable.

This Document is for Electronic Distribution

Rational for Permit Requirements Table I.A.1 below is taken from the permit.

Table I.A.1

Parameters		Effluent Discharge Limitations		Monitoring Requirements	
mg/l except as noted		30 Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow, MGD		0.75	m & r	continuous	meter
BOD ₅		30	45	weekly	composite
TSS		30	45	weekly	composite
Fecal Coliform, cfu/100 ml		200	400	weekly	discrete
pH, s.u.		-	6.5 - 9.0	weekly	discrete
TPH (C6 - C38)		-	1	monthly	discrete
Temperature, °C		-	34	monthly	meter
Total Residual Chlorine		-	m & r	monthly	discrete
Total Dissolved Solids		-	m & r	monthly	discrete
Nitrogen Species report as N	Kjeldahl	-	m & r	monthly	discrete
	Ammonia	-	m & r	monthly	discrete
	Nitrate	-	m & r	monthly	discrete
	Nitrite	-	m & r	monthly	discrete
	Total	-	10	monthly	discrete
Total Phosphorus		-	m & r	monthly	discrete
Arsenic		-	m & r	quarterly	discrete
Priority Pollutants ¹ , µg/l		-	m & r	annually	discrete

Note: m & r = monitor & report

1 Attachment A

Individual parameters and limitations are discussed below. Averages and characterizations cited are based on an examination of the discharge data set submitted for February 2002 through June 2006.

FLOW, 0.75 MGD: This is the design capacity of the plant, with the overall average appearing fairly constant at 0.28 MGD.

BOD and TSS, 30/45 mg/l: These are secondary treatment standards established by the U.S. EPA. BOD and TSS have averaged 9 and 8 mg/l, respectively.

FECAL COLIFORM, 200/400 cfu/100 ml: This is the Class C water quality standard. Although the average is 253, operationally it's much lower since the average was skewed by several abnormally high values.

p.H., 6.5 - 9.0 s.u.: This is the Class C water quality standard.

This Document is for Electronic Distribution

Total Petroleum Hydrocarbons (TPH), 1 mg/l: This technology based limit is included as a check on discharges to the collection system. TPH was detected once, in February of 2003, at 0.99 mg/l.

TEMPERATURE, 34 °C: This is the Class C water quality standard. The average is 22 °C.

TOTAL RESIDUAL CHLORINE, monitor & report: The average is approximately 1 mg/l. This is intended as a check against over chlorination.

TOTAL DISSOLVED SOLIDS, monitor & report: Although the average is 3600 mg/l, there's been an upward trend - the average since 2005 is 4200 mg/l. This parameter is monitored because it's of interest for water quality purposes. The sources are the city water system and shallow aquifer infiltration to the collection system. Elevated concentrations would be expected in the drain as well, given it's interchange with the shallow aquifer.

TOTAL NITROGEN, 10 mg/l:

NITROGEN SPECIES, monitor & report: Total nitrogen is determined as the sum of separate analyses for Kjeldahl, nitrate, and nitrite. The Kjeldahl analysis gives the sum of the organic and ammonia fractions. Although the limit is a conservative application of the drinking water standard for nitrate, excessive nutrient concentrations can also result in an overabundance of algae and other aquatic plant species. The average for total is 6.6 mg/l, while the nitrate - N average is 2.4 mg/l.

TOTAL PHOSPHORUS, monitor & report: This is monitored for water quality purposes, as excessive nutrient concentrations can result in an overabundance of algae and other aquatic plant species. The average is 2.15 mg/l.

ARSENIC, monitor & report: The average of the quarterly data is 0.281 mg/l, with a maximum of 0.330 mg/l. Since the drinking water supply is treated for arsenic, discharge concentrations in excess of the standard (0.05 mg/l) are likely due to groundwater infiltration to the collection system.

PRIORITY POLLUTANTS, monitor and report: The priority pollutant list, compiled by the U.S. EPA in response to Section 307 of the Clean Water Act, consists of 126 substances: organic chemicals, pesticides, metals, dioxin, cyanide, and asbestos. The list is given at 40 CFR Part 131 Section 36, 40 CFR Part 123 Appendix A, and Attachment A of the permit. As the list encompasses a wide range of chemicals used in or resulting from manufacturing processes, the annual scan is intended to detect any unknown industrial inputs to the collection system. Thus it is similar in purpose to the TPH analysis described above, but with much lower detection limits and numerous individual analyses. The following table presents the maximum concentrations detected over the last four annual samples.

NV0110001 NAS Fallon Maximum Concentrations Detected from Annual Priority Pollutant Analyses 2002 - 2005			
Constituent mg/l	Maximum Concentrations Detected	Water Quality Standard	
		Criteria ¹	Beneficial Use
Total Trihalomethanes	0.278	0.100	drinking water supply
As	0.3	0.05	drinking water supply
Cu	0.009	0.06	drinking water supply
Ni	0.01	0.8	aquatic life
Se	0.025	0.005	aquatic life
Zn	0.02	0.525	aquatic life

1. Based on a hardness of 800 mg/l as CaCO₃, where applicable.

This Document is for Electronic Distribution

The presence of trihalomethanes (THM) is attributable to the chlorination process, and those constituents would be expected to evaporate fairly quickly upon discharge. Arsenic is discussed in the section above. Selenium is a natural constituent of aquifers in the area.

GROUNDWATER MONITORING: Four monitor wells have been installed based on the sludge ponds' clay liners. One well is dry. Depth to groundwater is approximately 6 ft, with nitrate - N concentrations mostly 1 mg/l or less. The permit contains the Division's standard condition (I.A.3) for quarterly monitoring with increasing restrictions if nitrate concentration increase past 7 mg/l.

Changes from the Previous Permit

p.H., 6.5 - 9.0 s.u.: The previous permit had 6.5 - 8.5; the change reflects the Class C water quality standard.

TPH, 1 mg/l: This change from the monitor & report limitation of the previous permit was made in conformance with Division policy to apply this limit wherever applicable; the basis is described in the preceding section.

TOTAL NITROGEN, 10 mg/l: This change from the monitor & report limitation of the previous permit was made in conformance with Division policy to apply this limit wherever applicable; the basis is described in the preceding section.

PRIORITY POLLUTANTS, monitor & report: The previous permit applied drinking water limits to these annual samples. That has been discontinued because those standards were developed under the Safe Drinking Water Act and are applicable to water systems, not NPDES discharges.

ARSENIC AND TOTAL DISSOLVED SOLIDS ABATEMENT PLAN: As the sources are known; the water system and infiltration to the collection system, and because the collection system is in need of repair, this item has been replaced with a requirement to submit a plan by the 2 yr anniversary of the permit for evaluation and repair of the collection system.

Compliance History There have been no significant compliance issues over the term of the previous permit.

Procedures for Public Comment Notice of the Division's intent to renew discharge permit NV0110001, authorizing discharge of treated sewage to the Truckee Carson Irrigation District conveyance system, is being sent to the Lahontan Valley News and Fallon Eagle Standard for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit must submit written comments to the Division within (30) days of the publication date. The comment period can be extended at the discretion of the Administrator. The deadline for comments is 5:00 P.M. Friday March 30, 2007, although letters postmarked on that date will also be accepted.

A public hearing on the proposed determination can be requested by the applicant, any affected state or interstate agency, the Regional Administrator, or any interested agency, person, or group of persons. The request must be filed within the comment period and indicate the interest of the person filing the request and the reasons why a hearing is warranted. Public hearings granted by the Division are conducted in accordance with NAC 445A.238.

The final determination of the Division may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination The Division has made the tentative determination to renew the proposed discharge permit for a five year term.

Prepared by: Robert J. Saunders
Staff Engineer
Bureau of Water Pollution Control

February 12, 2007

This Document is for Electronic Distribution